IN THE CLAIMS

1. (Currently Amended) A method for identifying compounds that bind to a target of interest, comprising:

(a) assembling and identifying a first set of target binding ligands that compete for non-covalent binding to a first binding site on the target;

(b) assembling and identifying a second set of target binding ligands that compete for non-covalent binding to a second binding site on the target;

(c) chemically linking at least one member of the first set and at least one member of the second set to provide a first set of linked ligands; and

(d) screening the set of linked ligands to identify compound members thereof that bind to the target.

2. (Original) The method of claim 1, wherein assembling step (a) or assembling step (b) comprises measuring non-covalent binding of target binding ligands to the target by mass spectroscopy.

3. (Original) The method of claim 2, wherein target binding ligands having a disassociation constant, K_d, equal to 500 μM or less are assembled into a set.

4. (Previously Presented) The method of claim 2, wherein the identified linked ligands have a disassociation constant, K_d, equal to 500 mM or less.

5. (Previously Presented) The method of claim 1, wherein the first binding site is the same as the second binding site.

6. (Previously Presented) The method of claim 1, wherein the first binding site is not the same as the second binding site.

7. (Previously Presented) The method of claim 1, wherein assembling step (b) comprises determining binding of target binding ligands to the target having at least one member of the first set of target binding ligands bound thereto.

8. (Previously Presented) The method of claim 1, wherein the target is a target biomolecule.

9. (Original) The method of claim 8, wherein the target biomolecule is a polypeptide, protein, DNA, RNA or polysaccharide.

10. (Previously Presented) The method of claim 1, wherein step (c) comprises forming a covalent bond linking the member of the first set and the member of the second set.

11. (Currently Amended) The method of claim 1, wherein screening step (d) comprises a biological assay [[measurement]].

12. (Previously Presented) The method of claim 1, wherein a member of the first set and a member of the second set bind to the target in a 1:1 ratio.

13. (Previously Presented) The method of claim 1, further comprising assembling a third set of target binding ligands that compete for binding to the first binding site on the target and a fourth set of target binding ligands that compete for binding to the first binding site on the target, where members of each of the third set and the fourth set compete with members of the first set for binding to the first binding site, but members of the third set do not compete with members of the fourth set for binding to the target.

14. (Previously Presented) The method of claim 13, further comprising covalently linking at least one member of the third set or the fourth set and at least one member of the second set to provide a second set of linked ligands; and screening the second set of linked ligands to identify members thereof that bind to the target.

15-20 Canceled.

21. (New) A method for identifying compounds that bind to a target of interest, comprising:

forming a compound by chemically linking a member of a first set of ligands which non-covalently binds to a first binding site of a target to a member of a second set of ligands which non-covalently binds to a second binding site of the target;

contacting the compound with the target; and

detecting the non-covalent binding of the compound to the target by mass spectrometry.

22. (New) The method of claim 21 wherein binding of the member of the first set of ligands to the first binding site of the target, or binding of the member of the second set of ligands to the second binding site of the target, is measured by mass spectrometry.

23. (New) The method of claim 22 wherein the member of the first set of ligands and the member of the second set of ligands each have a dissociation constant, Kd, equal to 500 mM or less.

24. (New) The method of claim 23 wherein the dissociation constant of the compound binding to the target is less than the dissociation constant of the member of the first set of ligands or the dissociation constant of the member of the second set of ligands binding to target.